COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Piedmont Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS
DRAFT/PROPOSED

Waste Management of Virginia, Inc.
Charles City County Landfill
8000 Chambers Road, Charles City County, Virginia
Permit No. VA-51254

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Waste Management of Virginia, Inc. has applied for a Title V Operating Permit for its Charles City County Landfill facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact:_____ Date: 10/03/03

Air Permit Manager:_____ Date:_____
Air Permit Manager

FACILITY INFORMATION

Permittee
Waste Management of Virginia, Inc.
8000 Chambers Road
Charles City County, Virginia 23230

Facility
Charles City County Landfill
8000 Chambers Road
Charles City County, Virginia 23230

AIRS ID No.: 51- 036-0014

SOURCE DESCRIPTION

SIC Code: 4953 - This facility consists of a municipal solid waste landfill that collects the landfill gas and burns it primarily in either an enclosed or open flare or the gas is routed to a treatment system that processes the collected gas for subsequent sale or use to energy recovery device(s). The gas may also be used as fuel for a leachate vaporator (4.2 million btu/hr heat input) or an internal combustion engine. (note that this engine has never been started up and, the leachate vaporator, while operated in the past is no longer currently operated)

The facility is a Title V major source of non-methane organic carbons. This source is located in an attainment area for all pollutants, and is not a PSD major source. The construction of the gas collection and control system was previously permitted under a Minor NSR Permit issued on February 10, 2003.

COMPLIANCE STATUS

A full compliance evaluation of this facility, including a site visit, has been conducted. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility and DEQ entered into a Consent Order to resolve a Notice of Violation on November 22, 1999 alleging noncompliance with failing to meet certain requirements of NSPS Subpart WWW. This order was formally resolved on September 27, 2001 with civil charge received July 16, 2001.

The facility is inspected once per year. The facility was most recently inspected on September 5, 2003 and found to be in compliance.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The emissions units at this facility consist of the following :

Emission Unit ID	Emission Unit Description	Size/Rated Capacity	Pollution Control Device Description (PCD)	PCD ID	Stack ID	Pollutant Controlled	Applicable Permit Date
Fuel Burning Equipment							
F001	IC engine, Waukesha model F18GLD 1997 (Not operated to date)	265 kw 1.4 million btu/hour heat input	none	none	IC1	none	Feb. 10, 2003
F002	Leachate Vaporator, model V-500 1997	4.2 million btu/hr heat input	none	none	LV1	none	Feb. 10, 2003
Landfill Operations							
	Municipal Solid Waste Landfill operating since 1990	45,070,000 yd^3 with a maximum compaction of 1,400 lbs/yd^3	Vaporator, Model V-500 rated at 4.2 million btu/hr heat input 1997	F002	F002	NMOC 98% CE or 20 ppmv; VOC; HAPs	Feb. 10, 2003
			Enclosed flare rated at 4570 SCFM;1997	D001	V001	NMOC 98% CE or 20 ppmv; VOC; HAPs	
			Open flare rated at 3600 SCFM 1994	D002	V002	NMOC designed and operated as in 40 CFR 60.18; VOC; HAPs	
			IC engine, Waukesha model F18GLD 355 brake hp output 1997 (Not operated to date)	F001	F001	NMOC 98% CE or 20 ppmv; VOC; HAPs	
Storage Tanks							
PO8	Leachate above ground storage tank 1990	250,000 gallons	none	none	fugitive	N/A	n/a
PO9	Leachate above ground storage tank 1990	250,000 gallons	none	none	fugitive	N/A	n/a

EMISSIONS INVENTORY

A summary of the 2002annual are summarized below:

2002 Actual Emissions

	2002 Criteria Pollutant Emission in Tons/Year				
Emission Unit	NMOC	CO	SO_2	PM_{10}	NO_x
enclosed flare (D001)	0.4	1.9	0.5	4.0	22.1
open flare (D002)	0.16	19.9	0.8	1.0	4.3
vaporator (F002)*	0	0	0	0	0
IC engine (F001)*	0	0	0	0	0
Total	.06	21.8	1.3	5.0	26.4

* the vaporator and IC engine did not operate in calendar year 2002

2002 Facility Hazardous Air Pollutant Emissions

Pollutant	2002 Hazardous Air Pollutant Emission in Tons/Yr
HCl	2.1
HF	1.3

EMISSION UNIT APPLICABLE REQUIREMENTS - Landfill, LFG Collection and Control System

LIMITATIONS

Limits for the operation of the landfill are established in the February 10, 2003 source permit as follows:

#3 Design Capacity - The design capacity of the MSW landfill is 45,070,000 yd^3 with a maximum compaction of 1400 lbs/yd^3. A change in the design capacity may require a State Air Pollution Control Board permit to construct and operate.
(9 VAC 5-50-390)

#4 LFG Collection and Control System: Design and Operational Standards The permittee shall operate a landfill gas (LFG) collection and control system that:

- Is designed to handle the maximum expected gas flow rate from the entire area of the landfill;
- Collects gas from each area, cell or group of cells in which initial solid waste has been in place for a period of:
  - 5 years or more if active; or
  - 2 years or more if closed or at final grade;
- Collects gas at a sufficient extraction rate;
- Is operated with each wellhead under negative pressure except as provided in 40 CFR 60.753 (b).
- Is operated with each interior wellhead in the collection system having a landfill gas temperature less than 55°C and having either a nitrogen content less than 20 percent, as determined by

EPA Method 3C; or an oxygen content less than 5 percent, as determined by EPA Method 3A. The permittee may establish a higher operating temperature, nitrogen, or oxygen value at a particular well. A higher operating value demonstration shall show supporting data that the elevated parameter does not cause fires or significantly inhibit anaerobic decomposition by killing methanogens.

- Is designed to minimize off-site migration of subsurface gas;
- Routes the collected landfill gas to a treatment system that processes the collected gas for subsequent sale or use to energy recovery device(s). The treatment system must produce pipeline quality gas if the facility desires to meet the requirements of 40 CFR 60.752(b)(iii)(C) with a device other than energy recovery. All emissions from any atmospheric vent from the gas treatment system is subject to the requirements listed above; **OR**
- Controls landfill gas emissions by routing the collected landfill gas to a flare. The flare must meet the criteria in 40 CFR 60.18;
- Reduces NMOC by 98 weight-percent or, for an enclosed combustion device such as the enclosed flare, leachate vaporator, and engine, either reduces NMOC by 98 weight-percent or reduces the outlet concentration to less than 20 ppmv, dry, as hexane, at 3 percent oxygen, as determined by EPA Method 25C, EPA Method 18 or other method approved by the Administrator.
- Maintains the methane concentration at the surface of the landfill at less than 500 ppmv above the background level as determined in accordance with approved methods in the permit.

(9 VAC 5-50-410)

#5 Open Flare Requirements - The open flare shall meet the criteria in 40 CFR 60.18.
(9 VAC 5-50-410)

#6 Dust Emission Control - Unless otherwise specified, dust emission controls shall include the following or equivalent as a minimum:

- Dust from grading, cell construction, waste compaction, application of daily cover, wood waste chipping operations, storage piles and traffic areas shall be controlled by wet suppression or equivalent (as approved by the DEQ) control measures.
- All material being stockpiled shall be kept moist to control dust during storage and handling, or covered to minimize emissions.
- Dust from haul roads shall be controlled by wet suppression and prompt removal of dried sediment resulting from soil erosion and dirt spilled or tracked onto paved surfaces within the landfill.
- Reasonable precautions shall be taken to prevent deposition of dirt on public roads and subsequent dust emissions. Dirt spilled or tracked onto paved surfaces shall be promptly removed to prevent particulate matter from becoming airborne.

(9 VAC 5-50-90)

#7 Operational Requirements – The permittee shall demonstrate compliance with operational standards for the landfill gas collection and control system required by Subpart WWW (40 CFR 60.753) in accordance with appropriate subsection(s) of Subpart WWW (40 CFR 60.755). The permittee shall demonstrate compliance of the landfill gas collection and control system requirements of Subpart WWW (40 CFR 60.752) in accordance with appropriate subsection(s) of Subpart WWW (40 CFR 60.755). All reports required to demonstrate compliance with the compliance requirements of Subpart WWW (40 CFR 60.755) shall be prepared and submitted

to the Piedmont Regional Office as required by Subpart WWW (40 CFR 60.755).
(9 VAC 5-80-1180, 9 VAC 5-50-410)

#8 Operation of Landfill - Except where this permit is more restrictive than the applicable requirement, the MSW landfill shall be constructed and operated in accordance with 40 CFR 60, Subpart WWW.
(9 VAC 5-50-410)

#9 Operation of LFG Control System - The gas control system shall be in operation at all times when the collected gas is routed to the system.
(9 VAC 5-50-410)

#10 Fuel - The approved fuel for the enclosed flare, engine, and vaporator is landfill gas. The enclosed flare or open flare may also use propane gas to ignite the pilot flame in the enclosed flare. A change in fuel may require a permit to modify and operate.
(9 VAC 5-80-1180, 9 VAC 5-50-50)

#11 Fuel – The landfill collection and control system, which consists of the enclosed flare, open flare, the engine, and the leachate vaporator, shall consume no more than 2.93×10^9 cubic feet of landfill gas per year, calculated monthly as the sum of each consecutive 12 month period.
(9 VAC 5-170-160, 9 VAC 5-80-1180)

#12 Hours of Operation – The open flare shall operate no more than 3700 hours per year, calculated monthly as the sum of the previous 12 month period.
(9 VAC 5-80-1180)

#13 Visible Emission Limit – The open flare shall be operated with no visible emissions, as determined by EPA Method 22, except for periods not to exceed a total of 5 minutes during two consecutive hours. This condition applies at all times except during startup, shutdown and malfunction.
(9 VAC 5-50-20, 9 VAC 50-260, and 9 VAC 5-50-410)

#14 Visible Emission Limit - Visible emissions from the enclosed flare, the leachate vaporator, and the engine shall not exceed 10 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 20 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown and malfunction.
(9 VAC 5-50-20, 9 VAC 5-50-260)

#15 Emission Limits - Emissions from the operation of the open flare shall not exceed the limits specified below:

• Particulate Matter/PM_{10}	2.1 lbs/hr	3.9 tons/yr
• Sulfur Dioxide	3.0 lbs/hr	5.6 tons/yr
• Nitrogen Oxides	8.1 lbs/hr	15.0 tons/yr
• Carbon Monoxide	44.0 lbs/hr	81.3 tons/yr
• Non-Methane Organic Compounds	4.2 lbs/hr	7.7 tons/yr

(9 VAC 5-50-260, 9 VAC 5-50-180)

#16 Emission Limits - Emissions from the operation of the enclosed flare shall not exceed the limits specified below:

• Sulfur Dioxide	0.4 lbs/hr	1.6 tons/yr
• Nitrogen Oxides	15.6 lbs/hr	68.5 tons/yr
• Carbon Monoxide	1.4 lbs/hr	6.0 tons/yr
• Non-Methane Organic Compounds	6.8 lbs/hr	29.8 tons/yr

(9 VAC 5-50-260, 9 VAC 5-50-180)

#17 Emission Limits - Emissions from the operation of the engine shall not exceed the limits specified below:

• Nitrogen Oxides	3.0 g/bhp-hr	2.4 lbs/hr	10.3 tons/yr
• Carbon Monoxide	1.6 lbs/hr	6.9 tons/yr	

(9 VAC 5-50-260, 9 VAC 5-50-180)

#18 Emission Limits - Emissions from the operation of the leachate vaporator shall not exceed the limits specified below:

• Nitrogen Oxides	0.3 lbs/hr	1.4 tons/yr

(9 VAC 5-50-260, 9 VAC 5-50-180)

MONITORING

The landfill NSPS, Subpart WWW, is the basis for most of the requirements at this facility. Since the NSPS was promulgated after 1990, no periodic monitoring is required for these conditions other than the monitoring required in the regulation. The monitoring requirements in Conditions 22 and 23 of the NSR permit have been modified in the Title 5 permit (Section III.D., Periodic and Other Monitoring) to meet Part 70 requirements as follows:

Gas control system - The operation of the gas control system shall be monitored as follows:

- Gas flow, recorded at least once every 15 minutes.
- For enclosed combustion devices such as the enclosed flare (D001), the IC engine (F001), and the leachate vaporator (F002), the combustion temperature shall be continuously monitored and recorded.
- For an open flare, the presence of the pilot flame or the flare flame shall be continuously monitored by a heat-sensing device and recorded.

(9 VAC 5-80-110 and Condition 23 of 02/10/03 Permit)

Corrective actions - If monitoring demonstrates that certain requirements are not being met, corrective actions shall be taken as specified in 40 CFR 60.755 (a) (3) through (5) or 40 CFR 60.755 (c). If corrective actions are taken as specified in 40 CFR 60.755(c)(4), the monitored exceedance is not a violation of the operational requirements of this permit or 40 CFR 60, Subpart WWW.
(9 VAC 5-50-410, 9 VAC 5-80-110 and Condition 24 of 02/10/03 Permit)

Gauge pressure - The permittee shall measure gauge pressure in the header at each individual

active well monthly. If a positive pressure exists, corrective action shall be taken within 5 calendar days of the exceedance. If a negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement, the system shall be expanded within 120 days of the initial measurement of positive pressure. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval.
(9 VAC 5-50-410, 40 CFR 60.755(a)(3))

Active well monitoring - The permittee shall monitor each active well monthly for temperature and nitrogen or oxygen. If a well exceeds one of these operating parameters, action shall be initiated to correct the exceedance within 5 calendar days. If correction of the exceedance cannot be achieved within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval.
(9 VAC 5-50-410, 40 CFR 60.755(a)(5))

Surface methane - The permittee shall monitor surface concentrations of methane along the entire perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals for each collection area for which waste has been in place for two or more years if closed or at final grade or for which waste has been in place for five or more years if active. This surface methane monitoring shall take place on a quarterly basis. Areas with steep slopes or other dangerous areas may be excluded from this monitoring after receiving approval from the Director, Piedmont Region. (note: the working face is *specifically* excluded from this monitoring due to the inherently dangerous environment)

- Any reading of 500 ppm or more above background at any location shall be recorded as a monitored exceedance and the actions specified below shall be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements.
  - The location of the exceedance shall be marked and recorded.
  - The permittee shall perform cover maintenance or make adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of the exceedance. The location shall be remonitored within 10 calendar days of detecting the exceedance.
  - If the remonitoring of the location shows a second exceedance, the permittee shall take additional corrective action and shall monitor the location again within 10 days of the second exceedance.
  - Any location that initially showed an exceedance but has a methane concentration less than 500 ppm above background at the 10 day remonitoring shall be remonitored 1 month from the initial exceedance. If the 1 month remonitoring shows a concentration less than 500 ppm above the background, no further monitoring of that location is required until the next quarterly monitoring. If the 1 month remonitoring shows an exceedance, the permittee shall repeat the previous requirements.
  - For any location where the monitored methane concentration equals or exceeds 500 ppm above background 3 times within a quarterly period, a new well or other collection device shall be installed within 120 calendar days of the initial exceedance. An alternative remedy to the exceedance may be submitted for approval.

(9 VAC 5-50-410, 40 CFR 60.755(c)(4) and 40 CFR 60.755(c)(1))

Cover integrity - The permittee shall implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis.
(9 VAC 5-50-410, 40 CFR 60.755(c)(5))

Landfill gas - The permittee shall install a sampling port and a port for temperature measurements at each wellhead. The permittee shall measure the gauge pressure in the gas collection header on a monthly basis. The permittee shall monitor nitrogen or oxygen concentration in the landfill gas on a monthly basis. The permittee shall monitor temperature of the landfill gas on a monthly basis.
(9 VAC 5-50-410, 40 CFR 60.756(a))

Open flare monitoring - The permittee shall install, calibrate, maintain, and operate according to manufacturer's specification the following equipment for the open flare (D002):
A heat sensing device at the flame to indicate the continuous presence of flame;
A flow rate measuring device that shall record flow to the flare at least every 15 minutes, or with a bypass line valve secured in the closed position with a car-seal or lock-and-key type configuration. If the permittee elects to comply with this provision by securing the bypass line valve, then permittee shall perform a visual inspection of the seal or closure mechanism at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.
(9 VAC 5-50-410, 40 CFR 60.756(c))

Other equipment monitoring - The permittee shall install the following equipment on enclosed flare (D001), the IC engine (F001), and the leachate vaporator (F002). This equipment shall be calibrated, maintained, and operated according to manufacturer's specifications.

- A temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of 1 percent of the temperature being measured expressed in degrees Celsius or 0.5 ºC, whichever is greater. The temperature may be expressed in degrees Fahrenheit using the following formula: ºF=9/5ºC + 32.
- A device that records flow to the enclosed flare (D001), the IC engine (F001), and the leachate vaporator (F002). The permittee shall install calibrate, maintain, and operate a gas flow rate measuring device that shall record the flow to the enclosed flare (D001), the engine (F001), and the leachate vaporator (F002) at least every 15 minutes or secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

(9 VAC 5-50-410, 40 CFR 60.756(b))

Visible Emissions - The enclosed flare (D002), the IC engine (F001), and the leachate vaporator (F002) shall be observed visually at least once each calendar week in which the individual emissions unit operates. The visual observations shall be conducted using 40 CFR 60 Appendix A Method 22 techniques for at least a brief time to only identify the presence of visible emissions. Each emissions unit in the Method 22 technique observation having visible emissions shall be evaluated by conducting a 40 CFR 60 Appendix A Method 9 visible

emissions evaluation (VEE) for at least six (6) minutes, unless corrective action is taken that achieves no visible emissions. 40 CFR 60 Appendix A Method 9 requires the observer to have a Method 9 certification that is current at the time of the VEE. If any of these six (6) minute VEE averages exceed the unit's opacity limitation, a VEE shall be conducted on these emissions for at least 3 six-minute periods (at least 18 minutes). All visible emission observations, VEE results, and corrective actions taken shall be recorded.

If visible emissions inspections conducted during twelve (12) consecutive weeks show no visible emissions for a particular stack, the permittee may reduce the monitoring frequency to once per month for that stack. Anytime the monthly visible emissions inspections show visible emissions, or when requested by DEQ, the monitoring frequency shall be increased to once per week for that stack.
(9 VAC 5-80-110E)

Emission Limit Demonstration -The NSR permit dated February 10, 2003, has limitations for the vaporator, the enclosed flare, and the engine that are both short term and long term emissions limitations. The periodic monitoring for these conditions may be satisfactorily implemented by recording the emissions factors, maximum rated capacity, and emission calculation formulas on site.

RECORDKEEPING
The permit includes requirements for maintaining records of all monitoring and testing required by the permit. These records include the following:

General - The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Piedmont Regional Office. These records shall include, but are not limited to:

- Current maximum design capacity, current amount of refuse in place, and year by year refuse accumulation rates.
- Description, location, amount, and placement date of all nondegradable refuse including asbestos and demolition refuse placed in landfill areas that are excluded from landfill gas estimation or landfill gas collection and control.
- Installation date and location of all newly installed wells.
- Map or plot showing each existing and planned well in the gas collection system with each well uniquely identified.
- Maximum expected gas flow rate.
- Parameters monitored for the gas collection and control systems.
- The yearly throughput of landfill gas to the open flare (D002), enclosed flare (D001), IC engine (F002), and leachate vaporator (F001), calculated monthly as the sum of each consecutive 12-month period.
- The yearly hours of operation of the open flare (D002), calculated monthly as the sum of each consecutive 12-month period.

(9 VAC 5-80-110 and Condition 27 of 02/10/03 Permit)

Positive pressure - The permittee shall record and have on hand for inspection purposes

instances when positive pressure occurs in efforts to avoid a fire.
(9 VAC 5-50-410, 40 CFR 60.753(b)(1))

Monitoring design plan - The permittee shall develop and have on hand a surface monitoring design plan that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30 meter intervals.
(9 VAC 5-50-410, 40 CFR 60.753(d))

Control equipment parameters - The permittee shall keep up-to-date, readily accessible records for the life of the control equipment of the data listed below as measured during initial performance tests or compliance determinations. Records of subsequent tests or monitoring shall be maintained for a minimum of 5 years. Records of the control device vendor specifications shall be maintained until the equipment is removed.

- The landfill's maximum expected gas generation flow rate.
- The landfill's density of wells, horizontal collectors, and surface collectors.
- The average combustion temperature of the enclosed flare (D001), the IC engine (F001), and the leachate vaporator (F002) measured at least every 15 minutes and averaged over the same time period as the performance test.
- The percent reduction of NMOC achieved by the enclosed flare (D001), the IC engine (F001), and the leachate vaporator (F002) during the initial or most recent compliance test.
- A description of the location at which the collected gas vent stream is introduced into the leachate vaporator (F002).
- For the open flare (D002), the flare type (i.e., steam-assisted, air assisted, or unassisted); all visible emission readings; heat content determinations; flow rate or bypass flow rate measurements; exit velocity determinations made during the initial performance test; continuous records of the flare flame monitoring; and records of all periods of operations during which the flare flame is absent.

(9 VAC 5-50-410, 40 CFR 60.758(b))

Exceedances - The permittee shall keep up-to-date, readily accessible records documenting periods of operation during which the parameter boundaries established during the most recent performance test are exceeded for the enclosed flare (D001), the IC engine (F001), and the leachate vaporator (F002). The following constitute exceedances to be recorded and reported for the enclosed flare (D001), the IC engine (F001), and the leachate vaporator (F002):

- All three-hour periods of operation during which the average combustion temperature was more than 28ºC below the average combustion temperature during the most recent performance test determining compliance.
- Changes in the location at which the vent stream is introduced into the flame zone of the leachate vaporator (F002).

(9 VAC 5-50-410, 40 CFR 60.758(c))

Operating parameters - The permittee shall keep for 5 years up-to-date, readily accessible continuous records of the following equipment operating parameters specified for monitoring:

- wellhead gauge pressures measured monthly
- wellhead temperatures measured monthly
- wellhead nitrogen or oxygen concentrations measured monthly
- flow rates to control equipment bypasses

- presence of flames in flares
- results of quarterly surface methane monitoring
- periods of malfunctions of control or collection devices.

(9 VAC 5-50-410, 40 CFR 60.758(c))

Collectors - The permittee shall keep for the life of the collection system an up-to-date, readily accessible plot map showing each existing and planned collector in the system. This map shall also provide a unique identification location label for each collector. Additionally, the permittee shall keep up-to-date, readily accessible records of the installation date and location of all newly installed collectors.
(9 VAC 5-50-410, 40 CFR 60.758(d))

Exceedances - The permittee shall keep for at least 5 years up-to-date, readily accessible records of all collection and control system exceedances of the operational standards, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance.
(9 VAC 5-50-410, 40 CFR 60.758(e))

Malfunctions - The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the landfill gas collection and control system; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.
(9 VAC 5-50-410, 40 CFR 60.7(b))

Inspections - The permittee shall maintain a device inspection log for equipment F001, F002, and D001 to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Piedmont Region. The log shall include the date and time of the inspections, whether or not visible emissions were noted, the results of any Method 9 visible emissions evaluation, and corrective actions taken.
(9 VAC 5-80-110)

Testing reports - The permittee shall maintain the most recent testing reports demonstrating compliance with the NOx emissions limitation for the IC engine (F001) listed in Condition III.C.6.
(9 VAC 5-80-110)

Emission factors - The permittee shall maintain records of emission factors, rated capacities, and equations used to show compliance with the emission standards for D001, F001, and F002 listed in Conditions III.C.3, 5 and 6.
(9 VAC 5-80-110)

Storage Tanks, NSPS Subpart Kb - The permittee shall keep readily accessible records showing the dimension of the following storage vessels:

- P08 - 250,000 gallon leachate storage tank
- P09 - 250,000 gallon leachate storage tank

and an analysis showing the capacity of each storage vessel. These records shall be kept by the permittee for the life of the storage vessel.
(9 VAC 5-50-410, 40 CFR 60.116b(a), and 40 CFR 60.116b(b))

TESTING

The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports shall be provided at the appropriate locations.
(9 VAC 5-50-30, 9 VAC 5-80-110 and Condition 33 of 02/10/03 Permit)

After the installation of a gas collection and control system in compliance with 40 CFR 60.755, the permittee shall determine the actual NMOC concentration and LFG flow rate and shall calculate the NMOC emission rate in accordance with 40 CFR 60.754 (b) for reporting the uncontrolled NMOC emission rate.
(9 VAC 5-50-410, 9 VAC 5-80-110 and Condition 20 of 02/10/03 Permit)

The permittee shall provide safe sampling platforms, safe access to sampling platforms, and utilities for sampling and testing equipment.
(9 VAC 5-50-410, 40 CFR 60.8(e))

If measured, the nitrogen level at each wellhead shall be determined by using Method 3C.
(9 VAC 5-50-410, 40 CFR 60.753(c)(1))

The oxygen level at each wellhead shall be determined by an oxygen meter using Method 3A except for the following:

- The span shall be set so that the regulatory limit is between 20 and 50 percent of the span.
- A data recorder is not required.
- Only a zero and a span calibration gas are required. Ambient air may be used as span.
- A calibration error check is not required.
- The allowable sample bias, zero drift, and calibration drift are 10%.

(9 VAC 5-50-410, 40 CFR 60.753(c)(2))

The background concentration of methane during surface emissions monitoring shall be determined for the instrument measuring the surface concentrations of methane by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells.
(9 VAC 5-50-410, 40 CFR 60.755(c)(2))

Surface emission monitoring shall be performed in accordance with 40 CFR 60 Appendix A, Method 21, Section 4.3.1 except that the probe inlet shall be placed within 5 to 10 centimeters of the ground. Monitoring shall be performed during typical meteorological conditions.
(9 VAC 5-50-410, 40 CFR 60.755(c)(3))

The portable analyzer used to determine the surface methane concentration shall meet the instrument specifications provided in 40 CFR 60, Appendix A, Method 21, Section 3, except that methane shall replace all references to VOC. The calibration gas shall be methane, diluted to a nominal concentration of 500 ppm in air. To meet the performance evaluation requirements in section 3.1.3 of Method 21, the instrument evaluation procedures of Section 4.4 of Method 21 shall be used. The calibration procedures in Section 4.2 of Method 21 shall be followed immediately before commencing a surface monitoring survey.

(9 VAC 5-50-410, 40 CFR 60.755(d))

REPORTING

Annual report - The permittee shall submit annual reports to the Director, Piedmont Region for the calendar year and shall be submitted prior to March 31 of the following calendar year. Reports shall contain the following:

- Value and time periods for exceedances of pressure, temperature, nitrogen or oxygen measurements at wellheads.
- Value and time periods for exceedances of temperature requirements at the enclosed flare (D001), the IC engine (F001), and the leachate vaporator (F002).
- Value and time periods of landfill gas flow to control bypasses if applicable.
- Value and time periods for when flame was not detected at the open flare (D002). Only applies when gas is being routed to D002.
- Description and duration of all periods when the open flare (D002), the enclosed flare (D001), the IC engine (F001), and the leachate vaporator (F002) are not operating properly for a period exceeding 1 hour and the length of time the equipment was not operating properly.
- All periods when the collection system was not operating for more than 5 days.
- Location of each exceedance of the 500 ppm methane concentration standard and the concentration recorded at each location for which an exceedance was recorded in the previous month.
- Date of installation and the location of each well or collection system expansion added due to exceedances of oxygen, nitrogen, or pressure; added due to the age of the initial solid waste placed in each cell or group of cells; or added due to surface methane concentration exceedances.
- Instances when positive pressure at a wellhead occurred due to efforts to avoid a fire.

(9 VAC 5-50-410, 40 CFR 60.757(f), 40 CFR 60.753(b)(1), 9 VAC 5-50-50, 9 VAC 5-80-110 and Condition29 of 02/10/03 permit)

Closure report - The permittee shall submit a closure report to the Director, Piedmont Regional Office within 30 days of the date the MSW landfill stopped accepting waste.
(9 VAC 5-50-50, 9 VAC 5-80-110 and Condition30 of 02/10/03 permit)

Equipment removal report - The permittee shall submit an equipment removal report to the Director, Piedmont Regional Office 30 days prior to the removal or cessation of operation of the control equipment.
(9 VAC 5-50-50, 9 VAC 5-80-110 and Condition31 of 02/10/03 permit)

Annual emission fees - The actual emissions covered by the permit program fees for the preceding year shall be calculated by the owner and submitted to the department by April 15 of each year. The calculations and final amount of emissions are subject to verification and final determination by the department.
(9 VAC 5-50-50, 9 VAC 5-80-110 and Condition 32 of 02/10/03 permit)

STREAMLINED REQUIREMENTS

The following conditions have been streamlined from the February 10, 2003 permit to construct and operate:

#19 - initial performance test - The initial performance test has been performed with appropriate report submitted to DEQ. The IC engine (F001) was not tested as it has not achieved start-up and the permittee has no intentions of doing so.

#21 - visible emissions evaluation - The required visible emissions evaluation was conducted as a part of the initial performance test.

#25 - equipment - The monitoring equipment has been evaluated as required.

#28 - initial compliance report - The initial compliance report has been submitted.

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

STATE ONLY APPLICABLE REQUIREMENTS
There are no State Only applicable requirements in this Title V permit.

FUTURE APPLICABLE REQUIREMENTS
Future applicable requirements for this facility include the landfill MACT (40 CFR 63 Subpart AAAA) and requirements for landfill closure found in NSPS Subpart WWW, Standards of Performance for Municipal Solid Waste Landfills as follows:

MACT - National Emissions Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills
The Landfill 'MACT' (40 CFR 63 Subpart AAAA), published January 16, 2003, includes the following additional requirements for affected MSW landfills:

- The compliance date with respect to the requirements of 40 CFR Part 63, Subpart AAAA is January 16, 2004.
  (40 CFR 63.1945(f))
  A "Startup, Shutdown and Malfunction" (SSM) Plan shall be developed and implemented for the facility according to the provisions in 40 CFR 63.6(e)(3). A copy of the SSM plan must be maintained on site.
  (40 CFR 63.1960)
- Annual reports of the operation of the GCCS as required by §60.757(f) of NSPS Subpart WWW will be required semi-annually beginning with the first report after the compliance date of January 16, 2004.
  (40 CFR 63.1980)

Records and reports required by 40 CFR 63, Subpart AAAA, with respect to the SSM plan should include:

- Actions taken during a SSM event that are consistent with the SSM plan shall be recorded as required by §63.6(e)(3)(iii) and §63.10(b) and reported in the semi-annual SSM reports submit as required by §63.6(e)(3)(iii) and §63.10(d)(5).
- Actions taken during a SSM event that are inconsistent with the SSM plan must be recorded, as required by §63.6(e)(3), and reported within 2 working days of the event, followed by a letter to the Administrator within 7 working days after the end of the event, in accordance with §63.10(d)(5). Any new actions that are indicated as appropriate during an SSM event shall be incorporated in a new SSM Plan.
  (40 CFR 63.6(e)(3) & 63.10(d)(5))
  (40 CFR 63.1930 through 63.1990, 63.6(e)(3), 40 CFR 63.10(b) & (d))

Requirements for Landfill Closure - NSPS Subpart WWW

The collection and control system may be capped or removed provided that all the following conditions are met:

- The landfill shall be a closed landfill. A closed landfill is defined as a landfill in which solid waste is no longer being placed and in which no additional solid wastes will be placed without first filing a notification of modification as prescribed in the General Provisions of 40 CFR 60. A closure report shall be submitted to DEQ.
- The collection and control system shall have been operating at least 15 years.
- The calculated NMOC gas production shall be less than 50 megagrams per year on three successive test dates. The test dates shall be no less than 90 days apart and no more than 180 days apart.

(9 VAC 5-50-410, 40 CFR 60.752(b)(2)(v))

The permittee shall calculate the NMOC emission rate for purposes of determining when the system can be removed using the following equation:

$M_{nmoc} = 1.89 \times 10^{-3} Q_{lfg} \times C_{nmoc}$ where:

M_{nmoc} = mass emission rate of NMOC, Mg/year

Q_{lfg} = flow rate of landfill gas, cubic meters/minute

C_{nmoc} = NMOC concentration, ppmv as hexane

Qlfg shall be determined by measuring the total landfill gas flow rate at the common header pipe to the control device using a gas flow measuring device calibrated according to the provisions of 40 CFR 60, Appendix A, Method 2E, Section 4.

Cnmoc shall be determined by collecting and analyzing landfill gas sampled from the common header pipe using Method 25C or Method 18. The minimum list of compounds shall be those published in the most recent version of AP-42 for Method 18. The sample location on the common header pipe shall be before any condensate removal or refining units. The permittee shall divide the NMOC concentration from Method 25C by six to convert from C_{nmoc} as carbon to C_{nmoc} as hexane.

The owner or operator may use other test methods if approved by the Administrator.
(9 VAC 5-50-410, 40 CFR 60.754(b))

The permittee shall submit a closure report to DEQ within 30 days of waste acceptance cessation. DEQ may request additional information as may be necessary to verify that

permanent closure has taken place in accordance with the requirements of 9 VAC 20-80-250 E. and F. If a closure report has been submitted to the DEQ, no additional wastes may be placed into the landfill without filing a notification of modification.
(9 VAC 5-50-410, 40 CFR 60.757(d))

The permittee shall submit an equipment removal report to the DEQ 30 days prior to removal or cessation of operation of the control equipment. The report shall contain the following:

- A copy of the closure report.
- A copy of the initial performance test report demonstrating that the 15 year minimum control period has expired.
- Dated copies of 3 successive NMOC emission rate reports demonstrating the landfill is no longer producing 50 Mg or greater of NMOC per year. DEQ may request additional information to verify that all conditions for removal have been met.

(9 VAC 5-50-410, 40 CFR 60.757(e))

INAPPLICABLE REQUIREMENTS

Compliance with the provisions of this permit shall be deemed compliance with all applicable requirements in effect as of the permit issuance date as identified in this permit. This permit shield covers only those applicable requirements covered by terms and conditions in this permit and the following requirements which have been specifically identified as being not applicable to this permitted facility:

Citation	Title of Citation	Description of Applicability
9 VAC 5-40-5800 (40 CFR 60 Subpart Cc)	Emission Standards for Sanitary Landfills (Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills)	Article only applies to municipal solid waste landfills which commenced construction, reconstruction or modification before May 30 1991.
40 CFR 60 Subpart Kb	Standards of Performance for Volatile Organic Liquid Storage Vessels (including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction or Modification Commenced after July 23, 1984.	Storage vessels with a capacity greater than or equal to 40 cubic meters (10,567 gallons) constructed, reconstructed or modified after July 23. 1984, Insignificant emission units numbered P01, P02, P03, P04, P05, P06, P07, P10, P11 and P 12 have capacities of less than 10,567 gallons and therefore this standard is not applicable.

COMPLIANCE PLAN
This facility is not subject to a Compliance Plan at this time.

INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
P01	Used oil tank	5-80-720 B	VOC	1,000 gal.
P02	#2 fuel oil tank	5-80-720 B	VOC	10,000 gal.
P03	#2 fuel oil tank	5-80-720 B	VOC	8,000 gal.
P04	Lube oil tank	5-80-720 B	VOC	500 gal.
P05	Lube oil tank	5-80-720 B	VOC	250 gal.
P06	Lube oil tank	5-80-720 B	VOC	250 gal.
P07	Propane tank	5-80-720 B	VOC	1,000 gal.
P10	Leachate tank	5-80-720 B	VOC	8,000 gal.
P12	Propane tank	5-80-720B	VOC	1,000 gal.
P11	Lube oil tank	5-80-720 B	VOC	250 gal.

[1]The citation criteria for insignificant activities are as follows:
9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application
9 VAC 5-80-720 B - Insignificant due to emission levels
9 VAC 5-80-720 C - Insignificant due to size or production rate

CONFIDENTIAL INFORMATION

There is no Confidential Information associated with this permit action.

PUBLIC PARTICIPATION

The draft/proposed permit was placed on public notice in the Richmond Times Dispatch from October 8, 2003 to November 7, 2003. This permit is being processed for concurrent review of draft and proposed permits by EPA. No comments were received from either the public or EPA during the 30-day public notice period. No comments were received from EPA during the additional 15-day period which ended November 22, 2003 for comment on the proposed permit.